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STATEMENT OF WORK
REMEDICATION OF CONTAMINATED GROUND WATER
AT THE SOLAR PONDS

Prepared by
Environmental Restoration Division
EG&G, Rocky Flats Plant

July 30, 1990

ADMIN RECORD

1.0 INTRODUCTION

This Statement of Work (SOW) describes a typical Rocky Flats Plant (RFP) site on which ground water treatment process demonstrations can be conducted. A site description is provided in Section 2.0, treatment goals are listed in Section 3.0, and additional activities to be considered in bid preparation are provided in Section 4.0 of the SOW. This activity is being undertaken to utilize the capabilities of the private sector to demonstrate treatment technologies for ground water contaminated with mixed wastes and will be performed in accordance with all applicable federal and state radioactivity and environmental regulations, as well as DOE orders.

All work shall be performed in cooperation with the EG & G RFP site representative for this project. The DOE reserves the right to observe the demonstration in all respects and will have the authority to terminate further work.

2.0 SITE DESCRIPTION

The seller shall perform the demonstration at the Solar Evaporation Ponds which are part of Operable Unit 4 and are within the Perimeter Security Zone (PSZ). This located approximately 16 miles north west of the city of Denver, Colorado. See attached map for proximity to local populations and relation to other OUs.

SOLAR PONDS AREA

The solar ponds area consists of five Solar Evaporation Ponds and a French Drain System as shown on the Figure 2. The Solar Evaporation Ponds have been used for waste management operations since approximately 1953. The primary purpose of these ponds was to store and treat (by evaporation) low-level radioactive process waste containing high nitrates, and treated acidic wastes containing aluminum hydroxide. During their use, these ponds are known to have received additional wastes such as sanitary sewage sludge, lithium metal, sodium nitrate, ferric chloride, lithium chloride, sulfuric acid, ammonium persulfates, hydrochloric acid, nitric acid, hexavalent chromium and cyanide solution.

The French Drain System was installed to collect groundwater and seepage from the area. Liquid collected in the French Drain System flows by gravity to the interceptor trench pump house and is pumped back to the Solar Ponds. The current amount of seepage collected by the French Drain System is estimated to be approximately four million gallons per year.

CHEMICAL CHARACTERISTICS

Ground water collected by the Interceptor Trench Pump House is typically contaminated as follows:

Nitrate	2,200 mg/l
TDS	16,776 mg/l
VOCs	Trace
Heavy Metals	Trace
U Total	100 mg/l
Tritium	1,500 pCi/l

UTILITIES AND ACCESS

Potable water will need to be transported to the site. Electricity can be restored to the site with an advance notice of two to six months. Potable generators can be used in the interim. Major utilities which may required are available near the Solar Ponds area.

Roadways to the site are in good condition. Minor upgrades to the site may be required for larger equipment access. There is enough room for placement of a treatment facility without conflicting with existing structures.

The Solar Pond area is easily accessible with existing roadways. Minor upgrades may required for large equipment access. Some of the areas within this site are restricted for safety reasons, but these can be accessed most of the time by following RFP procedures.

3.0 TREATMENT GOALS

The RFP site is seeking treatment technology that will reduce the concentration of contaminants in ground water through separation and/or destruction processes. The main objective is to treat the water to drinking water standards as a minimum (as defined in 40 CFR 141, 142 and 143), and/or to applicable and relevant environmental standards. If a single treatment method cannot meet these requirements for one or more of the constituents, techniques which can be used in conjunction with other technologies for complete treatment will also be considered. The intent is to determine through field demonstration the ability of proposed technologies to approach these cleanup standards. This information will be used in future feasibility studies at RFP.

A second objective is to reduce the volume and classification of secondary effluent; e.g., it is desirable to generate secondary effluent is either radioactive or hazardous waste as opposed to mixed waste.

Due to the limited time frame for the demonstration, it is not required to demonstrate complete ground water decontamination; rather, the goal is to demonstrate the applicability of the technology for use in future U.S. Department of Energy projects.

4.0 OTHER CONSIDERATIONS

The Solar Ponds themselves are located in the Perimeter Secured Zone. The PSZ normally requires a Q-clearance for access. Special provisions can be made for access of non-Q-cleared people to the Solar Ponds. The Pump House for the Interceptor Trench Pump House system is located outside of the PSZ in the buffer zone of the RFP. The force main from the interceptor trench pump house returns water to the 207B-North Solar Pond. Treatment activities related to the pumped back ground water would be easier in the solar pond area.

This site is also located within a CERCLA Operable Unit; activities will be coordinated with an ongoing remedial investigation. Coordination will be accomplished through a technical coordinator who will be a DOE contractor. The seller will provide a person to be a point of contract for this coordinator. This point of contract will be responsible for providing technical support during briefings to the DOE and regulatory agencies as needed.

The seller should describe, provide information on and estimate cost associated with the following activities within the proposal.

* TREATMENT AND DISPOSAL OF SECONDARY EFFLUENT

Secondary effluent must be treated and packaged according to RFP requirements for storage and disposal. These costs are technology-specific and should be included within the bid package. Treatment, packaging, storage, disposal requirements, and cost information can be made available upon request.

* PERMIT PREPARATION

If the proposed technology has an off-gas stream, air quality permits may be required. The seller would be responsible for preparation of any such permits.

* NEPA DOCUMENTATION

Preparation of NEPA documentation will be required. The seller would be responsible for preparation of this documentation.

* TREATABILITY TEST PLAN

A treatability test plan must be prepared for review and approval by EG & G, DOE, Colorado Department of Health and EPA Region VIII. The approval cycle requires briefing to the site contractor environmental restoration staff, the site contractor technology development staff, the DOE-RFO and the regulators. It will also require preparation for, attendance of, and response to requested meetings with DOE and EPA to address specific issues. The test plan must include test objectives, description of the test and evaluation procedures, sampling, and analysis data/approach.

* HEALTH AND SAFETY PLAN

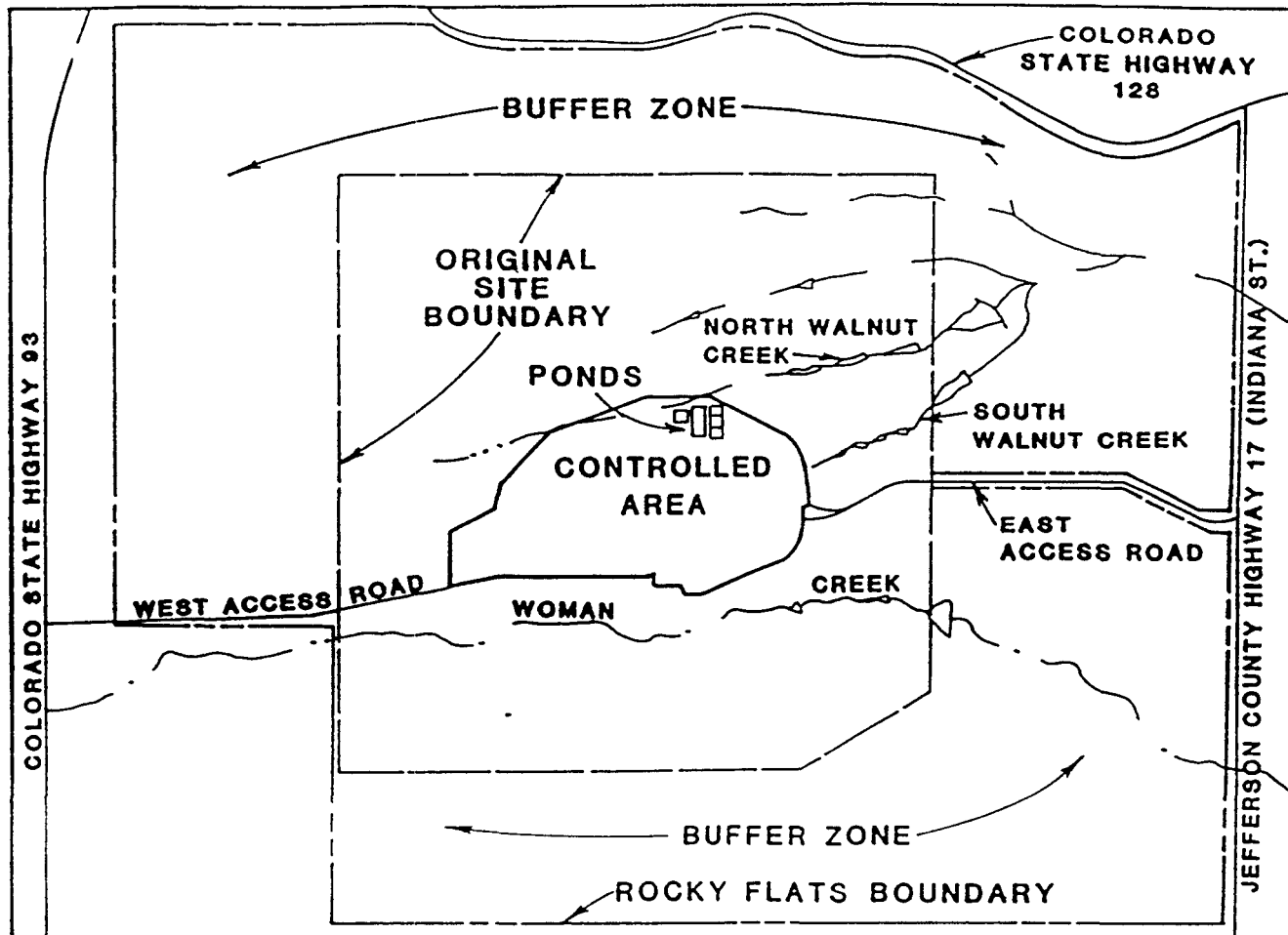
This plan must be prepared by the seller to cover the test preparation, operation, and closeout activities. It will be an amendment to an existing site health and safety plan.

* QA PLAN

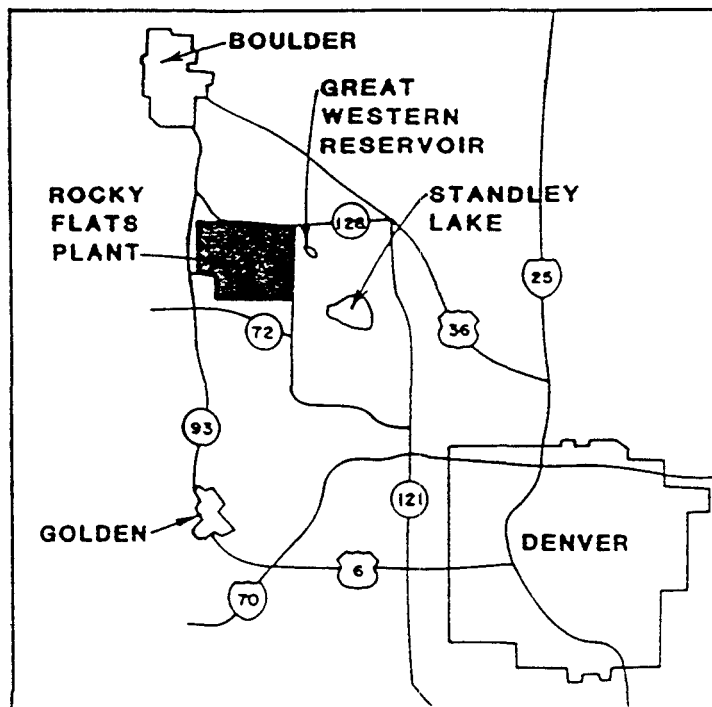
A Quality Assurance plan must be prepared.

* CHEMICAL/PHYSICAL ANALYSES

Analytical work on samples taken before, during, or after technology demonstration that are specific to determining the efficiency of the technology and success of the test should be included in the bid.



APPROXIMATE SCALE 1"=3,300'



APPROXIMATE SCALE 1"=40 000'

